## Baker, Kim

**From:** Baker, Kim
**Sent:** Wednesday, February 20, 2002 10:07 AM
**To:** Colvin, Mike; Lewis, Stu; Watkins, John; Guy, Don; Frazzini Cindy (E-mail); Fay Laura (E-mail)
**Cc:** Zody, Scott; Baldridge, Paul; Mack John (E-mail); Bartz, Dick
**Subject:** FW: Ground Water Availability in Erie County

To All

Below are comments from Division of Water regarding ground water availability at the Barnes Nursery site. I called Jim Raab, hydrogeologist, and asked several additional questions regarding the cost of drilling an 8 inch diameter well and prices for large capacity well pumps.

Well costs:
8 inch diameter well @ $25-30/foot
Depth of well needed: approx. 300 feet
Thus, $9,000/well times 3 (wells) = $27,000

Pump cost of $14,000-$19,000 times 3 (well pumps) = $57,000

**TOTAL COST** (worst case cost, less electric line installation) = **$84,000**

This total cost number is consistent with a well installed last week by Sprowls Drilling in Dublin, Ohio -- which cost $28,000 (where an 8" well was drilled to a depth of 240 feet into limestone and a 200 gallons per minute pump was installed).

Now, the only question left to answer regarding the viability of this alternative concerns the quality of the ground water.

FYI,

Kim

-----Original Message-----
**From:** Raab, Jim
**Sent:** Wednesday, February 20, 2002 8:33 AM
**To:** Baker, Kim
**Cc:** Bartz, Dick
**Subject:** Ground Water Availability in Erie County

Kim,

Dick asked me to send you information on the ground water availability in the vicinity of US Route 6 and Camp Road in Huron Township, Erie County.

The geology of this area consists of clay and sand overlying shale bedrock. The only aquifer capable of coming close to producing the water needed is the limestone aquifer which lies below the shale. At this site, there is approximately 100 feet of shale. The limestone aquifer is over 200 feet thick. Yields from this aquifer are up to 100 gallons per minute. I was told that 200,000 - 350,000 gallons per day would be needed. I would plan on drilling at least three wells to meet this need. The wells should be spaced at least 500 feet apart if possible to minimize interference.

Drilling through that much shale usually impacts water quality. Hydrogen Sulfide (H2S) will probably be high along with the hardness. This farmer might want to drill a 5 or 6- inch diameter test well to check the water chemistry. Drilling costs are in the $18-22/ foot range for a 5 or 6 inch diameter well. Installing casing all the way down to the limestone could help the water quality some.

If you have any questions, please let me know.

Jim

Jim Raab
Hydrogeologist/Supervisor